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7 November 1966

MEMORANDUM FOR: Deputy Director of Central Reference

SUBJECT: Report of Accomplishments in Management of ADP in the Office of Basic Intelligence

As requested in your memorandum of 2 November 1966, submitted herewith is a brief report on accomplishments in computer use and plans for the future in OBI.

1. Accomplishments

Two major systems became operational during the period March 1965 to date. They are described in the following sub-paragraphs:

a. EPIC System - The recently installed Electronic Printing for Intelligence Composition System is a computer assisted process for text composition of National Intelligence Surveys (NIS). Previously, typed manuscripts were received from contributors, edited, typeset, galley-proofed, corrected, and printed. Now the text is entered on punched paper tape and then undergoes 11 complex programs that justify margins, provide proofs, do page makeup in predetermined formats, and produces a paper tape for automatic typesetting on the Photon machine. The anticipated volume to be processed when the system is in full operation is approximately 38,000 typed manuscript pages or about 10,000 printed pages annually. An estimated 10 to 15% annual savings is estimated.

b. AUTOMAP Program - Automap is an automatic mapping system that employs the computer and automatic plotting table. Map line and point descriptions are stored digitally to furnish on demand any portion of the earth's surface, at any scale, using any projection within certain limitations. The line segment library currently consists of 75,000 points and can generate world coastlines and boundaries. Ten map projections are available in the basic program. Production runs employing

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the projection program singly or combined with the data base average two per day of 15 minutes duration on the IBM 7090 or 360/65. The advantages of the system include reduced production time and an increased range of products available to the Agency. To cite one example of former methods, maps employing the azimuthal equidistant projection had to be contracted outside for manual preparation (for manpower reasons). Now what formerly took months can be accomplished internally in hours at a fraction of the original cost.

2. Future Plans

a. National Intelligence Survey (NIS) Gazetteers - Highest developmental priority in OEI will be given to the processing of the NIS Gazetteers by computer means. A computerized system would have the advantages of rapid updating capability, elimination of marking diacritics by hand, and upper-and-lower-case typesetting. Once implemented, the total required updating and retrieval time would be minimal.

b. AUTOMAP Expansion - As the data base increases in size and the graphic routines become more sophisticated, it must be assumed that AUTOMAP usage will grow. Currently under development, are two major projects to automatically assemble and plot installations of intelligence interest on published map sheets. These and other future projects will require progressively greater amounts of computer processing time.

c. Reports Generation and File Maintenance - Within OEI, certain publications, production records, and working files are stored on either punched cards or punched paper tape. The acquistion of a computer by Machine Division will permit more frequent updating and print-out. When available, OEI will request additional data processing services. Of great interest, are the possibilities offered by remote terminal stations that can be used by a component to generate, process, and retrieve its own records. Establishment and operation of a net of terminals would, of course, require much on-line capacity.

d. Digital Input Devices - Three types of equipment are being considered that will affect future computer usage.

(1) Digitizer - In December 1966 a Thomson Pencil Follower PF10b will be delivered. This digitizer employs a hand-guided tracer that generates a stream of x-y coordinates which are recorded on magnetic tape. The

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machine will be used to input cartographic base maps, other cartographic products, and to compute areas. Processing time will be minimal, probably not exceeding 5 to 10 minutes of 360/65 time per 8 hour-shift of digitizer operation.

(2) Visual Analysis Console - The acquisition of a Bunker-Ramo BR-90 Visual Analysis Console by CRD in March 1967 will offer the possibility of real time cartography through the interplay of the cathode ray tube, film chips, computer, and the AUTOMAP system. If experimentation to be carried out in FY 68 is successful, the location and operation of a similar console at Headquarters Building in FY 69 would require on-line access to a large computer.

(3) Optical Scanning Equipment - Of critical interest are automatic or semiautomatic optical scanning machines that will convert map manuscripts or graphics, particularly photographs, into digital form suitable for automatic plotting or other transfer processes. With several prototypes now coming on the market, it can be assumed that satisfactory devices will be found and will eventually add to the processing burden.

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Chairman, ADP Committee
Office of Basic Intelligence

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